

NASR-ELDIN MOHAMED AREF

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EDUCATIONAL BACKGROUND

- 2003-2008** Doctor of Philosophy (Ph.D.) in Large Animal Clinical Sciences with an emphasis on design and evaluation of highly immunogenic *Escherichia coli* heat-stable enterotoxin (STa) and characterization of the immune response in laboratory animals. College of Veterinary Medicine (CVM), Michigan State University (MSU), USA.
- 1995-1998** Master of Internal Veterinary Medicine (MVSc) with an emphasis on neonatal calf diarrhea, acid-base balance and rehydration therapy. Faculty of Veterinary Medicine, Assiut University, Assiut-Egypt.
- 1989-1994** Bachelor of Veterinary Sciences (B.V.Sc). Faculty of Veterinary Medicine, Assiut University, Assiut-Egypt.

ACADEMIC POSITIONS

- 2013-Present** Associate Professor of Internal Veterinary Medicine, Assiut University, Assiut-Egypt.
- 2008-2013** Lecturer of Internal Veterinary Medicine, Assiut University, Assiut-Egypt.
- 2003-2008** Research Assistant/PhD Candidate on STa – Antibodies/Vaccine Project, National Food Safety Toxicology Center, CVM, MSU, USA.
- 1998-2002** Assistant Lecturer of Internal Veterinary Medicine, Faculty of Veterinary Medicine, Assiut University, Assiut-Egypt.
- 1995-1998** Demonstrator of Internal Veterinary Medicine, Faculty of Veterinary Medicine, Assiut University, Assiut-Egypt.

INSTITUTIONAL POSITIONS

- 2009-2011** Coordinator of strategic plan teamwork group for Continuous Improvement and Quality Assurance Project (CIQAP), Faculty of Veterinary Medicine, Assiut University, Egypt.
- 2012-2014** Vice Director of Quality Assurance Unit, Faculty of Veterinary Medicine, Assiut University, Assiut-Egypt.
- 2014-2015** Vice Dean for Education and Student Affairs, Faculty of Veterinary Medicine, New Valley, Assiut University.



TEACHING EXPERIENCES

| Year | Institution | Level | Courses Taught |
|--------------------------|--|----------------|--|
| 1995-2002 | Assiut University Faculty of Vet. Med. | Undergraduates | Practical courses of: 1. Internal Veterinary Medicine 2. Clinical Laboratory Diagnosis |
| 2008- present | Assiut University Faculty of Vet. Med. | Undergraduates | 1. General animal medicine 2. Diseases of ruminants |
| | Assiut University (New Valley Branch) Faculty of Vet. Med. | Undergraduates | 1. General animal medicine |
| | Sohag University Faculty of Vet. Med. | Undergraduates | 1. Internal Vet. Med. (Part 1) |
| | Assiut University Faculty of Vet. Med. | Postgraduates | 1. Diseases of neonatal animals 2. Bovine medicine 3. Disturbance of body fluid electrolyte & acid base balance |

M.V.Sc. COURSES AND GRADES

| | |
|------------------|---|
| 1995-1998 | <ol style="list-style-type: none">1. General Internal Veterinary Medicine with grade Excellent2. Special Laboratory Diagnosis with grade Excellent3. Bacterial and Viral Diseases of Neonatal Calves with grade Very Good4. Non-Infectious Diseases of Neonatal Calves with grade Excellent5. Statistics with grade Very Good |
| June 1998 | MVSc. of Internal Veterinary Medicine, Faculty of Veterinary Medicine, Assiut University, Assiut- Egypt. |

M.V.Sc. THESIS

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|--------------------|--|
| Title | “Clinical Approach to Neonatal Calf Diarrhea with Special Reference to Acid-Base Balance and Rehydration Therapy” |
| Thesis work | Thesis work focused on the clinical approach to neonatal calf diarrhea under field condition. The study aimed to: <ul style="list-style-type: none">▪ Classify neonatal calf diarrhea according to severity of dehydration and metabolic acidosis.▪ Correlate clinical signs with blood indices of acid-base balance and other laboratory parameters of dehydration.▪ Establish a therapeutic regime for medical intervention under field condition. |



PH.D. COURSES AND GRADE

Ph.D. courses (Egypt) 1999-2000

1. Advanced Internal Veterinary Medicine with grade Excellent
2. Diseases of Intensive Production with grade Very Good
3. Herd Medicine with grade Excellent
4. Advanced Clinical Laboratory Diagnosis with grade Very Good

Ph.D. Courses (USA) 2003-2005

1. Basic Biochemistry
2. Protein Structure and Function
3. Veterinary Immunology
4. Veterinary Microbiology and Infectious Diseases
5. Principles of Drug-Tissue Interaction
6. Introduction to Descriptive and Analytic Epidemiology
7. Design & Conduct of Epidemiological Studies & Clinical Trials
8. Special Problems in Large Animal Medicine
9. Epidemiology of Food-Borne Diseases and Food Safety
10. Statistics

Dec, 2005 Comprehensive Exam Completed

May 2008 Ph.D. of Large Animal Clinical Sciences, CVM, MSU, USA

PH.D. DISSERTATION

Title "Design and Evaluation of Immunogenic *Escherichia coli* Heat-Stable Enterotoxin (STa) and Characterization of the Immune Response in Laboratory Animals"

Dissertation work Dissertation work focused on construction of highly immunogenic STa conjugate and characterization of the neutralizing capacity and binding kinetics of STa- antibodies. The study's objectives:

- Purification and characterization of ETEC-STa
- Design and molecular characterization of an immunogenic STa
- Production of neutralizing mammalian (IgG) antibodies against STa

DISSERTATION ONLINE PUBLICATION AND REGISTRATION

ProQuest® Dissertations & Theses (Publication# 3381098)
<http://gradworks.umi.com/33/81/3381098.html>
Library of Congress US Copyright Office (Registration# TX6-692-612)



RESEARCHES SKILLS

1. Protein purification, structure and function: Dialysis, chromatography (RP-HPLC, SE-HPLC, GFC, AC), MALDI-TOF/ Mass spectroscopy, amino acid compositional analysis, ligand-receptor interaction.
2. Hapten-carrier conjugation: Different conjugation protocols and techniques.
3. Mammalian antibody (IgG) production, purification and evaluation: Immunization, sample collection and processing, antibody harvesting, antibody purification using AC, antibody assessment using different ELISA techniques.
4. Egg- yolk antibodies (IgY) production, purification and evaluation: Immunization, sample collection and processing, antibody harvesting, antibody purification using AC, antibody assessment using different ELISA techniques.
5. Clinical applications of avian and mammalian antibodies: Studying the neutralization capacity of avian and mammalian antibody against heat-stable enterotoxin of ETEC.
6. Hematology, blood biochemistry, blood gas and acid-base balance: Sampling, analysis and data interpretation.
7. Study design and conduct clinical trials.

SCIENTIFIC MEMBERSHIP

1. Member of American Association of Bovine Practitioners.
2. Member of American Association for the Advancement of Science.
3. Member of Egyptian Society for Cattle Diseases.
4. Member of Egyptian Society for Equine Diseases.
5. Member of Egyptian society for Camel Diseases.

WORKSHOP AND TRAINING COURSES

1. Intensive workshop on the uses of electron microscope, Assiut University-Egypt, 1-6 April, 2000.
2. Navigating the PhD workshop: Demystifying the dissertation, personal management, forming committees, topic & proposals, MSU 2003, USA.
3. Biological safety and medical waste training courses. MSU. USA.
4. Biodiversity of genera and species of fungi which deteriorate food materials with special attention to toxigenic human, animal and plant pathogenic species. Mycology Center, Assiut University, Egypt, 7-11 March, 2009.
5. Computer aided drug design using molecular operating environment program (CADD-MOE). 7-12 Feb., 2009 College of Pharmacy, Assiut University-Egypt.
6. Protein analysis and applications. Molecular Biology Research Units, Assiut University, Egypt, 24-25 Oct., 2010
7. Environmental pollutants: Methods of their detection and prevention. Faculty of Veterinary Medicine, Assiut University, Egypt, 18-20/2/2013.



QUALITY ASSURANCE TRAINING PROGRAMS IN HIGHER EDUCATION

1. Ethics in Education. 8-10 August, 2005. Faculty and Leadership Development Center (FLDC) Assiut University, Egypt.
2. Credit Hour System. 28-30 June, 2008. FLDC, Assiut University, Egypt.
3. Technology in Education. 28 -30 June, 2008. FLDC, Assiut University, -Egypt.
4. Time & Meeting Managements. 8 -10 July, 2008. FLDC, Assiut University, Egypt.
5. Financial and Law Aspects in University. 12-14 July, 2008. FLDC, Assiut University, Egypt.
6. Strategic Planning. 15-17 Dec., 2008. FLDC, Assiut University, Egypt.
7. International Publishing of Research. 23 -25 May, 2009. FLDC, Assiut University, Egypt.
8. E-Learning: 6 - 8 June, 2009. FLDC, Assiut University, Egypt.
9. Institutional Self-Evaluation in Higher Education. 7-11 Nov., 2009, National Authority for Quality Assurance and Accreditation of Education (NAQAE), Ministry of Higher Education, Egypt.
10. External Reviewing of Higher Education Institutions. 15-19 Nov., 2009. NAQAE, Ministry of Higher Education, Egypt.
11. World Federation for Medical Education. 7-9 Dec., 2009, NAQAE, Ministry of Higher Education, Egypt.

ACADEMIC ACTIVITIES

- Providing comprehensive clinical training for final years of veterinary students at Veterinary Teaching Hospital and Upper Egypt villages, Faculty of Veterinary Medicine, Assiut University, Egypt, 1995-2002, 2008-present.
- Active member of community service program for screening, diagnosis and treatment of animal diseases in Upper Egypt, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt, 1995-2002, 2008-present.
- Providing training for a summer intern on the use of Bellco bioreactor, ELISA and RP-HPLC, MSU, USA, summer, 2007.
- Providing training for laboratory staff on STa and IgY purification protocols, safe handling of Bellco Bioreactor, ELISA and RP-HPLC machines, MSU, USA, 2007.
- Active contribution in the scientific conferences, Faculty of Veterinary Medicine, Assiut University, Egypt, 1995-2002, 2008-present.



PUBLICATIONS

1. Nasr-Eldin M. Aref*, Ali El-Sebaie and Hammad Zaghloul Hammad. New Insights on Ill-thriftiness in Early-weaned Buffalo Calves. *The International Journal of Veterinary World*, 2016.
2. Arafat Khalphallah, Nasr-Eldin M. Aref*, Enas Elmeligy and Sayed F. El-Hawari, Clinical and Ultrasonographic Observations of Functional and Mechanical Intestinal Obstruction in Buffaloes (*Bubalus bubalis*), *The International Journal of Veterinary World*, <http://www.veterinaryworld.org>, 2016.
3. Nasr-Eldin M. Aref* and Mohamed H. Abdel-Hakeim, Clinical and Diagnostic Methods for Evaluation of Sharp Foreign Body Syndrome in Buffaloes, *The International Journal of Veterinary World*, 6:9, 586-591, <http://www.veterinaryworld.org/>, September, 2013.
4. Nasr-Eldin M. Aref* and Mohamed H. Abdel-Hakim, Azotemia and Metabolic Alkalosis in Calves with Urolithiasis Associated with Urinary Bladder and Urethral Rupture , *Assiut Veterinary Medical Journal*, 59 (137) , 86-92., 2013.
5. Rasha G. Sayed; Ahmed Abdel-Hameid; Nasr-Eldin M. Aref*, and Mohammed Sayed., Modulating effect of camel's milk on alloxan-induced experimental diabetes in laboratory animal model, *Assiut Vet. Med. J.* 2013.
6. Nasr-Eldin M. Aref* and Hateem A. Hamdon, Some indices of metabolic profile and oxidative stress in Sohagi ewes during transition period., *Assiut Veterinary Medical Journal, Faculty of Veterinary Medicine-Assiut, Egypt*, 58:132, 217-228, January, 2012.
7. Nasr-Eldin M. Aref * and A. Mahdi Saeed, Generation of high-titer of neutralizing polyclonal antibodies against heat-stable enterotoxin (STa) of enterotoxigenic *Escherichia coli*, *Vaccine*, Elsevier Publisher. <http://www.ncbi.nlm.nih.gov/pubmed/22766246> , Vol.30 - No.45, pp. 6341– 6346, <http://www.journals.elsevier.com/vaccine>, July, 2012.
8. Nasr-Eldin M. Aref* and A. Mahdi Saeed, An enhanced protocol for expression and purification of heat-stable enterotoxin of enterotoxigenic *Escherichia coli* , *J of Biochemistry and Molecular Toxicology*, <http://www.ncbi.nlm.nih.gov/pubmed/22447728> , Wiley-Blackwell Publisher, Vol 26-No 4, 168-175, <http://onlinelibrary.wiley.com/doi/10.1002/jbt.21406/abstract>, March, 2012.
9. Nasr-Eldin M. Aref * and Waleed Senosy, Diagnostic and prognostic value of blood gases and acid base balance in uterine torsion in buffaloes, *Assiut Veterinary Medical Journal*, Vol.58, No.133, pp.174-183, April, 2012.
10. Nasr-Eldin M. Aref., *Vaccine and Vaccination: Impact and Challenges.*, *J Vaccines Vaccin*, doi: 10.4172/2157-7560.1000e106, OMICS Publisher, USA , Vol. 3 - No. 3, July, 2012.
11. Nasr-Eldin M. Aref., *ETEC Vaccine between Reality and Expectations.*, *J Vaccines Vaccin*., doi: 10.4172/2157-7560.1000e110, OMICS Publisher, USA, Vol. 3 - No.5, 8, 2012.
12. Mohamed A. H. Abdel-Hakim and Nasr-Eldin M. Aref*, Prospective Study on Ano-rectal Anomalies in Neonatal Farm Animals, *Journal of Veterinary Advance, ScopeMed*, 2(12):, 595-604, <http://www.scopemed.org/?jid=74>, December, 2012.
13. Nasr-Eldin M. Aref*, Hatem A. Hamdon, Some Indices of Metabolic Profile and Oxidative Stress in Sohagi Ewes during Transition Period, *Assiut Vet. Med J.* 58, 132, 217-228, 2012.



14. Nasr-Eldin M. Aref* and Moatamed ElSayed Ali, Therapeutic effect of vitamin C in endotoxin-induced metabolic acidosis and oxidative stress in lambs., Assiut Veterinary Medical Journal, Faculty of Veterinary Medicine-Assiut Egypt, 57:128, 170-184, January, 2011.
15. Nasr-Eldin M. Aref* and A. Mahdi Saeed. , Design and characterization of highly immunogenic heat-stable enterotoxin of enterotoxigenic Escherichia coli K99+, Journal of Immunological Methods, <http://www.ncbi.nlm.nih.gov/pubmed/21277302>, Elsevier Publisher, 366, 100-105, <http://www.journals.elsevier.com/journal-of-immunological-methods>, January, 2011.
16. Nasr-Eldin M. Aref*, Abd Ellah, M. R., Khamis, G. F, Abd El-Moaety, M. and Amer, A. A. Some trace elements and antioxidants profile in Ill-thrift Fresian calves. Assiut Veterinary Medical Journal , Faculty of Veterinary Medicine-Assiut, Egypt, 55, 144-153., 2009.
17. Ali El-Sebaie, Ali H. Sadiek and Nasr-Eldin M. Aref*, Clinical approach to neonatal calf diarrhea: II. Prognostic aspect of rehydration therapy. , 5th Cong of Egyptian Society for Cattle Diseases, 28-30/11, Faculty of Veterinary Medicine, Assiut University., November, 1999.
18. Ali El-Sebaie, Ali H. Sadiek and Nasr-Eldin M. Aref*, Clinical approach to neonatal calf diarrhea: I. Relationship between the clinical signs and the severity of acidosis, 5th Cong of Egyptian Society for Cattle Diseases, Faculty of Veterinary Medicine, Assiut University, Faculty of Veterinary Medicine, Assiut University, November, 1999.

DOCTORAL THESES SUPERVISED

1. Hammad Zaglol Hammad: Clinical and Laboratory Assessment of Weaning-related Stress and Ill-thriftiness in Buffalo and Cow Calves, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University Assiut Egypt, 2015.

DOCTORAL THESES UNDER SUPERVISION

1. Ghada Ahmed Abdel-Alal: Flow Cytometric Cell Counts and Oxidative Stress for Evaluation of Mastitis In Dairy Cattle, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University Assiut Egypt.
2. Amal Farag: Clinical Evaluation and Determination of Some Antioxidants and Immunological Parameters in Vitamin A - Deficient sheep. Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University Assiut Egypt.

MASTERS THESES UNDER SUPERVISION

1. Shimaa Hassan Mohammed Hasanin, Coagulopathy and Some Biomarkers Investigations in Acute Abdominal Pain in Equines. Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University Assiut Egypt.
2. Hanaa Fawzy Kamaly, Clinicolaboratory Study on Aerobic Bacterial Enteritis in Neonatal Calves with Special Reference to E. coli Infection. Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University Assiut Egypt.



3. Eman Adel Abed El-Rahman: Oxidant and Antioxidant Levels in Weak Calves Reared By Small House Holder, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University Assiut Egypt.
4. Heba Abdel-Baset Nasr Sayed: Laboratory Studies on Some Diseases of the Compound Stomach in Cattle and Buffalo, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University Assiut Egypt.
5. Eman Ramadan Mohamed Abdel Mohsen: Liver Function Tests and Lipid Profile in Post parturient Dairy Cows and Buffaloes, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University Assiut Egypt.
6. Eman Hassan Abd Elnaeem: Cytomorphological Evaluation of Anemia in Dogs, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University Assiut Egypt.
7. Mahetab Mahdy Mohamed: Clinical, Hematological and Biochemical Studies on Intestinal Nematodes in Dogs. Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University Assiut Egypt.

RESEARCH FUNDING

Project: STa- ETEC nanovaccine development

- Address: Faculty of Veterinary Medicine, Assiut University-Egypt
- Role: Principal investigator
- Value of the grant: 922,000 Egyptian Pound (around US\$100,000)
- Duration: 2014-2016 (2 years)
- Funding organization: Science Technology Development Fund (STDF)-Egypt

Project: STa – Antibodies/Vaccine Project,

- Address: National Food Safety and Toxicology Center, MSU, USA
- Role: Research Assistant/Ph.D. candidate
- Value of the grant: US\$650,000
- Duration: 2007-2008 (2 years)
- Funding organization: National Institute of Health, USA.

PATENT

A patent out of my PhD work has been issued under the title of "Immunogenic *Escherichia coli* Heat-Stable Enterotoxin" (Pub. #: WO/2010/027473, Appl. #: PCT/US2009/004976), USA 2014.

JOURNALS REFREE

1. Pharmaceutical Sciences, OMICS Group Publishing, USA.
2. Toxins, MDPI Publisher, Switzerland.
3. Scandinavian Journal of Infectious Diseases, Informa Healthcare Publisher, UK, USA.
4. African Journal of Microbiology Research, Academic Journals Publisher Victoria Island, Lagos.
5. WebmedCentral Plus, UK, <http://www.webmedcentral.com>
6. Microbiology and Immunology, Wiley Publisher.



EDITORIAL BOARD

- Guest Associate Editor of Frontiers in Immunotherapies and Vaccines, Lausanne, Switzerland.
- Member on the Editorial Board of Journal of Vaccines and Vaccination, OMICS GROUP INCORPORATION, NV, USA.

AREA OF RESEARCH INTEREST

1. Enterotoxin- Mediated Diarrheal Diseases and Diarrheal Mechanisms
2. Clinical Immunology
3. Protein Purification and Characterization
4. Acid-Base Balance and Rehydration Therapy

LANGUAGE

1. English (Excellent listening, speaking, reading and writing)
2. Deutsch (Fair)
3. Arabic (native)

COMPUTER SKILLS

1. MS (Word, PowerPoint, Excel)
2. Statistical package software (SPSS)
3. Windows, web page designing and publishing

REFERENCES

Prof. Dr. Ahmed Abdel Fattah Aamer

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Professor of Internal Veterinary Medicine and Clinical Laboratory Diagnosis
Faculty of Veterinary Medicine
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